

Transcript  
*FedTalk*: 2024 Economic Outlook  
Federal Reserve Bank of Cleveland  
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### *Presentation*

#### **Speakers:**

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- Edward S. Knotek II, Senior Vice President and Director of Research

#### **Lisa Barrow:**

Good afternoon. Thank you for joining us and welcome to today's *FedTalk*. My name is Lisa Barrow. I'm a vice president in the research department here at the Federal Reserve Bank of Cleveland, and it's my pleasure to kick off our 2024 *FedTalk* season with today's economic outlook. *FedTalk* is the Cleveland Fed's Speaker Series in which we share research that is relevant to our community. Past events have covered such subjects as the racial wealth gap, access to labor market and financial literacy, and all of our events can be found on our website, [clevelandfed.org](https://clevelandfed.org) or on our [YouTube channel](#). Be sure to check it out.

Just a few housekeeping items before we get started. During the event, your microphone and camera are disabled, but you can please type any questions in the chat box and in the case that our Zoom meeting drops, please use the dial-in information that's been provided in the invitation. Now to move on to today's presentation, we have Ed Knotek who is the senior vice president and director of research at the Federal Reserve Bank of Cleveland, and he is going to explore some economic indicators that inform the Federal Reserve's analysis of the economy entering 2024. Following his presentation, we will turn to your questions, both the ones that were submitted in advance and any that show up in the chat. Thank you so much and, Ed, take it away.

#### **Ed Knotek:**

Thank you, Lisa. Let me share my screen here so we can get started. All right. Thank you all for joining us today as we kick off our 2024 *FedTalk* series. As Lisa said, my name's Ed Knotek, research director here at the Cleveland Fed, and I'll be presenting the 2024 economic outlook. Now, as is always the case, the views that I'll express today are my own and not necessarily those of the Federal Reserve Bank of Cleveland or the Federal Reserve System. My presentation today, I'll make four main points that I'll come back to probably on a regular basis. First, the economy looks to have grown at a solid pace in 2023, helped by strong consumer spending. Second, the labor market remains strong, but a number of signs suggest that it's not as tight as it had been earlier in the expansion. Third, inflation readings have been moderating as supply and demand forces come into better balance. And fourth, projections from the FOMC's December meeting suggests that monetary policymakers expect the federal funds rate to start declining this year amid somewhat slower growth and lower inflation.

Let me first turn to real gross domestic product or GDP, which is the broadest measure of economic activity capturing spending on all goods and services in the economy across consumers, businesses, and the government. The data indicate that real GDP grew at a solid pace

in 2023. As shown in the black diamonds in this chart, real GDP grew at just above a 2% annualized rate in the first and second quarters of last year before growing at almost a 5% rate in the third quarter of last year. Well, not shown in the chart because the data are still coming in, estimates point to growth in the fourth quarter of around 2% with a considerable amount of uncertainty. In absolute terms, this is good growth for the economy. It's even more impressive given forecasts early last year that the economy would contract in parts of 2023.

Digging under the hood, the colored bars in this chart show the contributions to GDP growth from six main components of GDP. Consumer spending, which accounts for about two-thirds of activity is in the light blue area at the tops of the stacked bars. You can see that consumer spending grew robustly in the first and third quarters of last year, and anecdotal reports along with yesterday's retail sales report suggests that growth was again solid for consumer spending in the fourth quarter of last year. Throughout last year, business fixed investment, trade and government spending, all added to growth. Residential investment in the orange segments moved from being a negative to a positive factor over the course of the year, which I'll come back to later, but let me first dive into consumption a little bit more.

Consumer spending patterns since the onset of the pandemic have experienced a persistent shift toward goods. This shift especially start early in the pandemic when consumers avoided high contact services, but they quickly ramped up their spending on goods in mid-2020 and into early 2021. But this shift has continued through last year. Real consumer spending on goods last year grew at a faster pace through November, then did real spending on services. At this point, real spending on durable goods has increased by nearly 30% compared with February 2020 compared with a gain among real spending on services of less than 6%. An open question for the outlook going forward is whether consumers will continue to exhibit these change preferences for goods or if they'll rotate some of that spending towards services. With spending data showing that demand for goods is still strong, at the same time there have been dramatic improvements in the supply chains that help to move those goods across the globe.

This chart shows the New York Fed's global supply chain pressure index. High positive readings of this index indicate acute pressure on supply chains. You can see that there was a dramatic worsening or even a breakdown of supply chains in 2020 and again in 2021. From a statistical perspective, 4 standard deviations is in the extreme tail of the distribution of outcomes. Over 2022 and into 2023, these pressures unwound as production bottlenecks diminished and transportation bottlenecks faded. The available data through December put supply chain pressures about equal to their historical average readings and data going back to the late 1990s. It'll take some time to determine if the recent attacks on cargo ships in the Red Sea will pressure supply chains on a sustained basis or not, but I'll return to these supply factors later in my talk. Besides improvements in the supply of goods, what else is supporting consumer spending?

For most consumers, a key driver of their spending is their incomes. This chart shows growth of personal incomes in the US which have been on a steady upward trend. It's also possible to see large spikes in 2020 and 2021 related to fiscal policy actions such as stimulus payments to households and other fiscal support. But as you can see, these are relatively short-lived. The bigger story has been persistent increases in incomes reflecting the strong labor market from expanding payrolls and rising wages along with other usual sources of income. Overall, this is a positive sign for consumer spending given that the labor market continues to show signs of strength entering this year.

Another factor that's been supporting spending is the savings that consumers were able to build up during the pandemic. The personal saving rate, which reflects disposable income that isn't spent saw a massive increase in 2020 and 2021, reflecting closures, lockdowns and voluntary pullbacks on spending and multiple rounds of fiscal support. More recently, the personal saving rate has fallen below pre-pandemic levels suggesting that in the aggregate consumers are still saving but not at the same pace as before. There's a healthy debate among economists about how much excess savings was accumulated and how much remains. Reports from banks point to checking and savings account balances that still exceed their pre-pandemic norms. Meanwhile, Cleveland Fed research notes that the permanent income hypothesis would suggest that consumers should only spend a small portion of any windfall in order to support spending over a long time horizon. Nevertheless, the extent to which these savings from the pandemic will support spending going forward remains another key question for the outlook.

Moving on from consumption spending and consumer spending, I guess, I should say, let me turn to the housing market. As I noted earlier, residential investments subtracted from GDP growth through the first half of last year before turning positive in the third quarter. That was the first positive reading over a two and a half year stretch suggesting that the picture in the housing market is starting to gradually turn around. But I think that the emphasis is on the word gradual in terms of the turnaround. Looking at first at house sales, the chart on the left, here, shows new single-family home sales while the chart on the right shows existing single-family home sales.

In both cases there was a large jump in sales in 2020 as demand surged amid low mortgage rates. This surge also reflected shifts in preferences as people wanted to change their living arrangements. In the market for new homes, the surge faded quickly as prices rose reflecting limited new home inventory and more costly construction materials. In the market for existing homes the surge remained for a little while longer into early 2022, but the sales pace began to decline as mortgage rates rose that year. For reference, the 30-year mortgage rate went from around three and a half percent to start 2022 to around 7% by the end of the year.

It's worth noting that this housing downturn has been very different from what happened around the 2007 to 2009 recession. Then, there was too much inventory relative to demand. Now, there's extremely little housing inventory, so in spite of softening in demand and fewer transactions, with few homes on the market, home prices have been high and have stayed high. As you can see in this chart, nationally, home prices are up more than 40% since early 2020. The story is roughly similar within the four major metro areas here in the Fourth District. This picture is very different from what happened 15 years ago when national home prices dropped 25%, peak to trough, based on this measure between 2006 and 2012. Moreover, those house price declines were not just in the Sun Belt. They occurred in this region too, even without the boom before.

With housing inventories low and with mortgage rates beginning to decline, signs point to a rebound in building activity, especially among single-family housing. Single-family housing starts in the blue line on the left, fell sharply in 2022, but they've rebounded since then. Construction activity in the multifamily market had ramped up in 2021 and 2022, as increased household formation pushed up rents and builders responded to those high rents by building more units. More recently, the multifamily market has started to reequilibrate and building activity in this segment has slowed, as has new tenant rent growth.

In the right chart you can see that residential and non-residential construction in dollar terms had been pretty similar through 2019. Since then, spending on residential construction has increased

by far more, though non-residential construction growth picked up sharply in 2023. In particular, business investment and structures was robust last year, especially manufacturing structures which were up 70% on a year-over-year basis. This development likely reflects a combination of factors, moving production to restore and strengthen supply chains, investment responses to the CHIPS Act and the Inflation Reduction Act, and firms responding to the stronger demand for goods that I documented earlier.

Let me turn next to the labor market starting with the unemployment rate, which is one of the best known labor market statistics. The unemployment rate overall was 3.7% in December of 2023. In the chart on the left, you can see that it peaked at almost 15% in April 2020. This represents a dramatic improvement. The unemployment rate is up a little from its lows last year when it had fallen to 3.4% in January and again in April of last year, which were 54-year lows for this series. On net the unemployment rate has moved up a bit recently, but it's still low by historical terms even compared with the last expansion. Meanwhile, the labor force participation rate in the right chart has been trending upward over the last three years consistent with ongoing increases in labor supply. I note that demographic trends, especially the aging of the baby boom generation, are overall putting downward pressure on labor force participation. A rising labor force participation rate is all the more impressive.

Another key indicator of the health of the labor market is job growth, which remains solid. The chart on the left shows the net change in payrolls from one month to the next. In December, firms added 216,000 workers on net, a pretty healthy pace, but you can see that the pace of job gains has been slowing, albeit unevenly since mid-2021. Over the last three months, employers added 165,000 jobs per month on average. This is about equal to the average pace of job gains in 2019 when the labor market was quite healthy. The small uptick in the unemployment rate and the slowing in payroll growth suggests that the labor market is not quite as hot as it had been earlier in the expansion.

Other indicators generally point in the same direction. Here I'm showing the job openings rate also called the vacancy rate, which is a measure of labor demand. The job openings rate peaked at 7.4% in March 2022. The most recent reading was 5.3% last November. This rate is still elevated but it's coming down and is slowly closing on its pre-pandemic level. While not shown, the ratio of vacancies to the number of unemployed workers has also been trending down, suggesting a better balance between available labor supply and labor demand.

Consistent with that better balance, wage growth has also shown signs of slowing. Here I'm plotting growth in the employment cost index or private sector compensation in blue, which is largely driven by wages and salaries in orange. Based on this measure, wages grew about four and a percent through the third quarter of last year. Wage growth is slowing compared with where it had been in early 2022, but it's still elevated compared with its pre-pandemic levels. Here I'd highlighted a couple of pieces of work from the Cleveland Fed.

First, researchers at the Cleveland Fed recently provided evidence that these wage increases of late have reflected delayed catch up to earlier price increases rather than necessarily being a key driver of prices going forward. Nevertheless, other Cleveland Fed research shows that firms believe their labor costs are an important factor in their price setting decisions. Monitoring what's happening to wage growth remains important for the picture for prices.

Speaking of, let me turn to looking at the picture for prices and inflation in some detail. As you may know, the FOMC has a longer term inflation objective of 2% inflation as measured by annual changes in the price index for personal consumption expenditures or PCE. I'll focus on

these PCE-based inflation measures today. My first chart here shows that inflation rates across multiple measures have come down from their peaks. Overall or headline PCE inflation is in blue. It's fallen from a peak of 7.1% in June 2022 to 2.6% as of last November. The squares show estimates from the Cleveland Fed's inflation nowcasting model, which expects headline PCE inflation to edge up to 2.7% in December before falling to 2.3% in January of this year. Core PCE inflation, which excludes fluctuations in food and energy prices, is an orange. It has fallen from 5.6% to 3.2%.

The squares show that the Cleveland Fed inflation nowcasting model expects core PCE inflation to move down further to 3% as of December and to 2.8% as of this January. Median PCE inflation in gray is calculated by the Cleveland Fed based on the price change in the very middle of the distribution of prices. It too has fallen from 6.1% to 3.9%. Let me make three points here. First, while they've all come down, these year-over-year inflation rates are all still above the FOMC's 2% longer term objective. Second, it's worth noting that toward the left side of this chart in 2018, all three of these measures were right around 2% in that year. And third, median inflation is somewhat higher than headline and core inflation rates, which means that inflation is being pulled down by a small number of components in the left or lower tail of the distribution.

Let me dig further by breaking down PCE inflation into five major components, energy, food, or more specifically food at home, core goods, housing and core services excluding housing. But before doing that, this chart shows the relative importance of these five components for consumer spending, which determines their weights and inflation. As you can see, food and energy are small components based on spending shares, but they can also be quite volatile, which means they frequently move overall inflation. Core inflation excludes these series and consists of the other three major components. Core goods such as autos, apparel, and recreational items are about one quarter of spending. As I noted earlier, services are about two-thirds of spending. With services excluding housing in red, about half of consumer spending.

If I plot the inflation rates in each of these five components, you can see that they've all come down from their peaks, go to varying degrees. The chart on the left, which is a much different scale from the chart on the right, plots food and energy inflation. Here you can see the initial surge in energy prices in 2021, which then continued into 2022 with the Russian invasion of Ukraine. Since then, however, energy inflation has been declining and was negative for most of last year, meaning energy prices were falling. Food inflation which had also surged into double digits has also fallen back. Food prices are now up 2% over the last year. The chart on the right shows the other three major components. Core goods inflation in gray, has fallen towards zero, which is a little higher than it had been pre-pandemic. Core services excluding housing in red has also started to turn down and inflation in this component is also still above its pre-pandemic readings.

And finally, inflation and housing services in light blue remains well above its pre-pandemic rates, but it too shows some signs of moving lower. Now, economists usually focus on year-over-year inflation rates as is shown in this chart for several reasons. First, year-over-year inflation rates help to abstract from regular seasonal patterns and prices that do not change from one year to the next. Even the best seasonal adjustment routines can be fooled about those because intervening events can obscure regular seasonal patterns. Second, price changes are volatile from one month to the next and some amount of time aggregation helps to smooth through that volatility in picking up the trend in inflation. Unrelatedly, but in addition, the forecasting

literature has found that inflation over the past year is often a good predictor of what inflation will be in the near future too, though this may not always be the case.

Putting aside those concerns momentarily, here I'm showing the same charts as earlier, but now I'm looking at six month annualized inflation rates, that is at a point in time I'm looking at the growth of prices between that point and six months earlier and then assuming that growth rate continued for another six months. Doing so gives a sense for the recent trend in prices. When I do this, the chart shows that headline and core piece inflation over the last six months has been running at about a 2% annualized rate. Meaning that if these recent trends persist for the next six months, then these inflation rates would be at 2% on a year-over-year basis as in the original chart. Similar to the earlier chart, median PCE inflation has been higher over the last six months at about a 3% annualized rate.

Next, let me redo the inflation breakdown that I showed earlier, again, looking at six month annualized inflation rates. On the right you can see that core goods prices in gray have fallen sharply over the last six months and those declines have been at a somewhat more rapid pace than they had been when they were falling in 2018. They've been helping to pull inflation down. Inflation and core services excluding housing, in red, over the last six months has been similar to what it had been in 2018 when headline and core inflation rates were right around 2%. But once again, housing services inflation remains elevated even recently at almost double its pre-pandemic rate.

What's been driving the moderation in inflation? As with the labor market, there are signs that supply and demand are coming into better balance in product markets as well. Here I'm showing one estimated breakdown of contributions to core PCE inflation coming from supply factors in the orange line and demand factors in the blue line. You can see in this chart that during 2020, lockdowns of the economy sharply reduced demand side inflation. In 2021, as activity recovered, demand for goods jumped and supply chains became snarled, both demand and supply factors contributed about equally to high inflation readings going into 2022. Over the course of last year as supply chains improved, labor supply picked up and demand for certain goods such as autos moderated. The contributions to inflation from supply and demand factors both decreased roughly in lockstep.

Meanwhile, one factor specific to the way that statistical agencies measure inflation and housing services suggests that lower inflation is likely to come in the future, although the timing and magnitude of the decline are uncertain. To dig into the details a little bit, housing services inflation is based on rents. Either the rent that people pay if they're renting their home or if they're homeowners, the implied rent that they would have had to pay to rent that same home. Now it's the case that rents often don't change frequently, they're sampled only every six months, which can build a lag into movements in housing services inflation in the first place. But in addition, from one month to the next, very few rental properties turnover to a new tenant. But those that do are more sensitive to current market conditions. As shown in this chart, growth in these new tenant rents had jumped in 2021 as household formation increased. But you can see toward the right-hand side that it's come down and even turned negative in the fourth quarter of last year.

Research from the Cleveland Fed, which underlies the construction of this series, finds that growth in these new tenant rents has typically led broader housing inflation by about a year in the past, suggesting that further declines in housing inflation may be on the way. Putting these pieces together, let me briefly turn to the forecast. To do so, I'll show the forecast that FOMC

participants made for their December meeting. The red dots in this chart are the median across the FOMCs individual projections or the middle forecast, and I'll focus on those. You can see in this chart that after growing at an above-trend pace in 2023, the median FOMC participant in December expected that GDP growth would step down this year to just under one and a half percent. A pace that is a little slower than the longer run estimate. Growth over 2025 and 2026 was projected to pick up a little and to run about equal to its trend pace.

In terms of the labor market, as noted earlier, the unemployment rate ended last year at 3.7%. This chart shows that the median FOMC participant expected that the unemployment rate would edge up over the course of 2024 to just above 4%. The unemployment rate was then projected to remain steady at that level, which is equal to its longer run estimate based on the median. Turning to PCE inflation, FOMC participants expected that inflation would fall to 2% over time. The median FOMC participant in December projected that headline PCE inflation would be 2.4% over the four quarters of 2024 followed by 2.1% in 2025 and 2% in 2026. In the longer run, all FOMC participants believe that inflation would be equal to the FOMCs inflation objective of 2%.

And finally, FOMC participants in general projected that the federal funds rate would decline over the next several years. This so-called dot plot shows participants expectations for the appropriate level of the federal funds rate at the end of each calendar year. The current target range for the federal funds rate is five and quarter to five and a half percent. You can see based on their December projections that at the end of this year the median FOMC participant projected that the appropriate level for the federal funds rate would be 4.6%.

Before turning to questions, let me briefly put in a plug for the bank's Center for Inflation Research, whose resources and research were mentioned several times in this presentation. Cleveland Fed's Inflation Center is focused on improving the understanding of inflation and its dynamics. It provides inflation content for researchers, policymakers and the public, ranging from an inflation 101 page and educational explainer videos to inflation data and indicators, survey estimates of inflation expectations, and in-depth analysis via both our Economic Commentary series and our working paper series. Thank you again for joining us today. We have plenty of resources if you're interested in learning more and I look forward, Lisa, to the questions that you have for me.

**Lisa Barrow:**

All right. Thank you very much, Ed. I am going to start off with some of the questions that were submitted in advance since I have them in front of me and we'll try to take some from the audience as well. You finished up before putting in the plug for the inflation center or Center For Inflation Research. You talked a little bit about policy and the FOMC participants dot plot projections. We have been reading in the news lately that several FOMC members, including our own Loretta Mester, have said that March is too early for the FOMC to start cutting interest rates, little contrary to some market participant expectations. And you just showed us a plot where you said that the dot plots indicated the appropriate level of monetary policy for 2024 was below where the current target is. Does that mean we're going to see interest rates dropping in 2024?

**Ed Knotek:**

Thanks, Lisa. This is certainly on everybody's mind and here I feel like it's always a good idea to reiterate the disclaimer, which any and all answers that I'll give today are certainly going to be mine. I am not speaking for the FOMC or for our president here at the Cleveland Fed or anyone else in the Federal Reserve System. Just to level-set, of course, the FOMC is the entity that sets the target range for the federal funds rate alongside several other related rates in order to control short-term rates. These are transmitted more broadly through financial markets. If we look at financial markets more broadly, interest rates broadly, some of those rates are going to move in lockstep with the federal funds rates. Some won't. Some of them are going to be determined by national and international factors. There's a lot to unpack when we talk about interest rates.

Ultimately, decisions on the federal funds rate are for the FOMC to make. It is the case that in their projections from the December meeting that I just showed, the median FOMC participant had anticipated it would be appropriate to reduce the federal funds rate over the course of this year. But exactly when, how, if they're going to do that, will certainly be determined by the FOMC. Now, again, it is the case that over the last few months we've seen a number of interest rates that have started to come down. Mortgage rates have been coming down. Interest rates on some longer term treasury, securities have been coming down as well. Those interest rates are being driven by lots of factors.

One of them could certainly be expectations of monetary policy. There are risk premia. There's international forces that are moving these yields. Certainly those yields are being determined by many factors. Trying to predict market interest rates is hazardous for your health in general. I think the forecasting literature has established that quite well. I'm going to let financial markets determine where financial market interest rates are going to go. Again, coming back to what policy is going to do, ultimately that's going to be decided by the FOMC based on conditions at the time.

**Lisa Barrow:**

I guess that means you're not going to tell me where I should put my thrift plan investments for the year either.

**Ed Knotek:**

You're on your own.

**Lisa Barrow:**

Okay, the next couple of questions I have, and then I'll turn to some of the ones that are coming in have to do with data questions. You showed us quite a bit of data. The first question, it's a long one, so I'm just going to read it. It says, "Rent of shelter was up a hot 0.4% in December and 6.2% higher from a year earlier. Services less rent of shelter accelerated by 0.6% for the second consecutive month and is 3.4% higher from a year ago. Why is the Fed signaling that it is intending to cut rates and reduce the pace of quantitative tightening when these two sticky inflation components which account for around 60% of consumer spending are well above the fed's 2% inflation goal? Also, why is the Fed in a rush to cut rates when Chicago Fed's adjusted financial conditions index shows financial conditions have eased to levels registered around March 2022 when the Fed began its tightening cycle." And I will emphasize again that I know you cannot tell us why the FOMC is doing what it is doing, but can you help us understand a bit about the thinking maybe as a policymaker?



**Ed Knotek:**

Yeah no. Thanks for putting that disclaimer in there for me. Let me focus a little bit on the data off the bat, right? First off, the first part of the question was around rents and services and inflation. It is correct that historically rent inflation has been quite sticky, meaning that it doesn't change very much. It's very persistent. It's slow moving. That's also been true for many services components, especially that core services excluding housing. There's a lot of stickiness to those series as well. That certainly is the case in the data historically. They tend to be sticky and slow moving. Some of that stickiness in housing services inflation is for the exact factors that I mentioned earlier, that sampling is done less frequently than sampling is done for some other goods and services. It's also the case that you have little turnover from one month to the next in terms of new renters. A lot of times when there's a longer established history between a renter and a landlord, those rents might not move as quickly. Just even when there is a change, they can be persistent.

There's a lot of intrinsic inertia built to rent inflation. Going back to the chart that I had showed earlier, and I won't pull it up here, but just to describe it, right? There you can see that there have been declines in housing services inflation and in core services excluding housing inflation. That's true whether you're looking at the year-over-year inflation rates or the six-month inflation rates as well. Housing services and inflation, year-over-year, I think, it peaked at 8% plus. It's come down to six and a half-ish percent on a year-over-year basis. Core services inflation excluding housing, it peaked above 5% on a year-over-year basis. It's now down around three and a half percent on a year-over-year basis. The short answer there is that there have been declines in inflation rates even among these relatively sticky categories, especially when we look at year over year or a six-month inflation rates.

I think the bottom line there is that they may be sticky going forward, but I think time will have to tell and we'll have to see some more data there to get a sense of what's happening. On the question about financial markets, that's a good point. There are numerous financial market measures that are out there. Certainly some financial market measures are tighter now than before. A number of interest rate measures, mortgage rates are higher now than they had been at the beginning of 2022. There are certainly other financial market measures that might be similar or easier than they were before.

I think in general, if we're trying to take a step back. Often it's the case that monetary policy makers aim to set policy to promote the dual mandate objectives of maximum employment and price stability, and broad financial conditions are means and not an end to themselves. Targeting financial market measures, especially those broad financial market measures can be difficult and tricky. If you think about financial market measures as a means and not an end, that might help to think about what that means in terms of how those are entering the reaction function. But ultimately, as I mentioned earlier, decisions on the federal funds rate, what financial market conditions policy makers would be looking for or not looking for, ultimately those are going to be determined by the FOMC, of course, based on a panoply of conditions.

**Lisa Barrow:**

The next data question was related to some things you touched on when you were looking at inflation measures at different horizons, like three months, six month, one year. And the question is like, "When conditions are fluid as in a period when inflation is slowing, does or doesn't it

make sense for economists and policymakers to give more weight to shorter term trends as opposed to setting policy based on the 12-month change in a particular index?”

**Ed Knotek:**

Yep, good question. Short answer here, I think, is that economists regularly look at a variety of different ways to cut the inflation data. That’s certainly what I was doing in my presentation, looking at year-over-year inflation rate, six month inflation rates, sometimes three month inflation rates. It’s also the case that economists look across a variety of different inflation measures themselves. Headline, core inflation, median inflation, trimming inflation, different components of inflation to look basically for what the trend is in inflation. The basic idea here, which I think goes to the heart of this question, is that shorter windows can sometimes be helpful to pick up a change in the trend, but I think that there’s important caveats that we have to take into account. First and foremost, price changes, price data from one month to the next can be quite volatile.

There’s sampling variability and volatility that’s involved there. Whether something was available or not one month to the next. There’s a really long literature that suggests that some time aggregation helps to smooth through that volatility to pick up the trend in prices. Year-over-year rates are nice because they’re helping to get rid of the seasonal factors that are recurring and regular. I have my own research on inflation nowcasting where you’re basically trying to predict the next couple of readings that shows that you get more accurate nowcast with a longer window rather than a shorter window. Also, I just throw in there that another factor to take into consideration is that when you’re looking at those shorter windows, year-over-year you can just look at either non-seasonal adjusted or seasonally-adjusted data. When you’re looking at shorter windows, you really presumably would be looking at the seasonally-adjusted data, seasonal factors. They’re not perfect. They can be affected by other things.

A pandemic that happens can be picked up even in seasonal adjustment. That’s true for very sophisticated models. I think that it’s worth being cognizant of the limitations of these shorter horizons, but certainly keeping them in mind when you’re forming a holistic picture of what’s happening. Again, whether policy should be driven by year-over-year inflation or inflation over shorter horizons, I’ll give the usual disclaimer that ultimately the FOMC is going to make those judgements. But in general, economists are sympathetic to the notion that you want to look at a lot of different types of inflation statistics.

**Lisa Barrow:**

Okay, let’s go to some questions that have come in since your talk. This is, again, an inflation oriented question. Current homeowners do not pay, quote, unquote, “Rent.” Is defined by the PCE measure. Basically the inflation rate experienced by many is lower than the official measure. Do you think that’s a theme in the FOMC?

**Ed Knotek:**

This is a good question and this really gets into inflation measurement and how to measure inflation correctly. There are statistics to pull out homeowner, what we would call owners’ equivalent rent, OER, from inflation statistics. It is the case that the PCE inflation measure has a different weight on owners’ equivalent rent than does the CPI. CPI has a much higher weight on shelter inflation and owners’ equivalent rent than does PCE. If anything looking at PCE is going

to have... This will be less of an issue there. Without going too deep, because I think for this talk, I don't know how deep we want to go. You want to capture some notion of the costs of homeownership, the rental services notion to capture the service flow from housing.

There's a long literature on why the statistical agencies do that. I don't want to second guess them in this forum. Again, I think that this goes back to what I said a moment ago that it's why is a general practice to look across a variety of different inflation measures, look at components similar to what I did in my presentation and to look for common trends among those to help to discern where inflation is going.

**Lisa Barrow:**

Okay, I am going to turn back to some policy questions and this person reports that we, and I don't know who the we is because there's no context for who the source of the question is, are being repeatedly asked by executives if the Fed will raise its target rate to 3%. What is the current thinking as to why 2% is a preferred inflation target versus 3%?

**Ed Knotek:**

It's a good question, and this is certainly at the research frontier. Research economists are digging into this exact question looking for the optimal inflation target. Now, it is the case that many of those studies are going to be very model dependent. You write down a model and then based on that particular model you might get an estimate of what the optimal inflation rate is. Yeah, I don't want to go too far down that path of talking about one model versus another. Let me just focus maybe more on the intuition here with three points. Point one is that the Federal Reserve has a congressional mandate through the Federal Reserve Act for price stability. There is always the question of how to define price stability? Secondly, and this actually relates to some other work that we have put out at the Cleveland Fed.

Cleveland Fed researchers put out an economic commentary recently that walked through a number of the distortions that are created by inflation. The bottom line there, basically, is that the higher the inflation rate, the greater the number of the distortions. And the lower the inflation rate, the fewer the number of distortions. In some sense that's a linear trade-off between distortions and inflation, even in inflation target. And at the same time there's been a lot of research showing that there is a relationship between inflation and interest rates. The lower is inflation on average, the lower our interest rates on average, the lower our policy rates on average. That's important for monetary policy because when policy rates are really low, if the economy is hit by a bad shock, that raises the probability that monetary policy would be constrained by the zero lower bound on interest rates.

The point at which the policy rate couldn't go any lower than zero. Many economists have pointed out that this posed a problem for monetary policy. The goal then is that you basically want to trade off these forces and have an inflation objective that is high enough to avoid some or most of the problems associated with the zero lower bound, but it's low enough to try to minimize some of the distortions that come from inflation in general. And in general, oftentimes 2% or somewhere thereabouts, depending on the model is a reasonable compromise between these two forces. But there's a lot of ongoing research on this topic. I think that certainly this is something that economists are thinking about wrestling with. Again, I would just come back to at the end of the day, what the target should be or will be is ultimately going to be determined by

the Federal Open Market Committee. There is a lot of cutting edge research that's going into answering this question too.

**Lisa Barrow:**

Okay. Let's shift a little closer to home now. One of the questions from the audience is whether you can talk a bit about the Cleveland Fed's District and how it is similar or different from the nation as a whole. I guess you can take that in whatever direction you want because...

**Ed Knotek:**

Okay, well that's always dangerous, so I'll try to keep my answer brief. We have a diversified economy here in the Fourth District. We have historically had a little bit higher of a reliance on manufacturing than the nation that continues to this day. But we have a diversified economy. There's a strong medical presence in the Fourth District. We have big hospital systems. That is true for the nation as a whole where healthcare is becoming a growing share of the economy. Education is important as an industry here in the district. This is true for the nation as a whole. As I think about some of the metrics that I showed earlier, thinking about the unemployment rate, I think that we're quite similar to the nation. Unemployment spiked during the pandemic. It's come down quite a bit. It's come up maybe a little bit more for our district than... Well, it had bottomed out, come up a little bit for the Fourth District, somewhat similar to the nation as a whole.

I think that we're seeing in the Fourth District a little bit of a slowing of demand, improvements in supply. At a high level, I guess that my view is that if I look across some of these major trends, a lot of them are not too dissimilar from what we're seeing at the national data in the macroeconomy. My general sense is that the Fourth District has many characteristics in common with the national picture.

**Lisa Barrow:**

All right, maybe back to some Fed policy questions. One of the early submitted questions was whether the Fed has or may ever consider dropping communications as monetary policy. Does this aspect of modern monetary policy make the Fed inherently too slow to act?

**Ed Knotek:**

A great question. Monetary policy, communications in general, this is a huge topic of research among economists of late. There is lots of work, lots of ongoing work, lots of recent work including work here at the Cleveland Fed showing the important role that monetary policy communications can play, whether it's influencing interest rates, stock prices, inflation expectations, all of those things can then in turn have an impact on the real economy. There's a lot of research that shows the power of monetary policy communications, and in fact, even work that shows that different types of communications can have different effects on different segments of the population.

I don't know that there's a way to get away from monetary policy communications, right? Because without communications private agents, whether it's financial market participants, price setters, consumers, all these people would be forming their own beliefs any way about monetary policy, so in some sense... And those beliefs could be very different from what policymakers might want them to be or might think or expect that they themselves would be doing. I think in

general, my reading of the literature suggests that there's a benefit when these private agents have more information rather than less around the outlook for policy or around how policymakers are thinking in technical jargon. In models, we talk about the reaction function and things like that from an economist standpoint. My sense there is that there's a lot of work showing that communications help to clarify and help to enhance stability of the economy, especially in the modeling frameworks that I've been able to see.

If the question is about whether communications can substitute for monetary policy actions, I think that's going to just depend on the situation. Again, if we look at the zero lower bound literature that's out there, the research literature that's out there, there's a lot of work that shows that when policy is constrained by the zero lower bound, communicating about expectations for future policy rates can be quite powerful and can help to reequilibrate the economy. In practice, of course, communications are going to be determined by the FOMC because they are the monetary body making the actual decisions. But in theory, there's lots and lots of work showing the power of communications in the research literature, I think.

**Lisa Barrow:**

Okay, another policy question, but a little different than what we've been talking about. Recently the New York Fed President John Williams was quoted as saying that the Fed was not close to ending quantitative tightening. In other words, slowing reductions of its balance sheet. Can you talk a little bit about why the size of the balance sheet matters and how the Fed determines the appropriate size?

**Ed Knotek:**

Good question, Lisa. This discussion could go on for a while. Let me give the high level overview of things. I think in general the view is that both the size and the composition of the Fed's balance sheet matter and influence financial conditions in the following way. When the Federal Reserve purchases a security and puts it onto its balance sheet, it's removing that security from the market. And if that's a long-term security, in turn that's removing what's called duration from the market, which is one way to influence interest rates. This goes back to what I was mentioning a moment ago about the zero lower bound. When monetary policy is constrained by the zero lower bound, when a monetary policy maker purchases longer term securities, puts them on the balance sheet, in theory that is one way to influence the term structure of interest rates, influence those longer term interest rates to stimulate the economy.

And then, of course, that process can work in reverse. If the central bank reduces the size of its balance sheet, that in essence is putting duration back into the market. It's basically taking those off the Fed's balance sheet and putting them back into the market, which can help to raise interest rates. Prior to the Great Recession, the Federal Reserve was maintaining a very small balance sheet, a small number of reserves in the system. It was injecting and draining reserves to maintain the effective federal funds rate at its target at that point in time. This was what was called a scarce reserves regime. Over time, thinking has evolved and that thinking has evolved in no small part because of what happened with the Great Recession, that there's now a general sense in the research literature that having more reserves increases liquidity in the banking system, and that's a good thing overall.

The overall thinking has changed to favor a regime of ample reserves where you're not just targeting a minimal number of reserves, you're targeting a big number of reserves, but past a

certain point those reserves might not be doing all that much. The broad goal, which the FOMC has communicated before, is to have a plentiful supply of reserves in the system without having too much reserves that may not be doing too much good. The quantitative tightening that's currently ongoing, which is part of the question, is an effort to remove the extraneous reserves, but to still be in that ample reserves regime. Of course, how long that process will go on, that'll be determined by the FOMC based on market conditions and their assessments thereof.

**Lisa Barrow:**

Okay. Well, I think that is going to be the last question because we are at time for closing out. Thank you so much for your presentation. I think it was quite informative and I hope everyone else enjoyed it as well. Information about today's program is going to be sent out in a follow-up email and a recording of the event will also be posted on [clevelandfed.org](http://clevelandfed.org). Thank you all for joining us today and have a great day.